CLMPTO 08/11/04 JW

Cancel Claims 1-37 and 55,56

Amend Claims 38-54 and 57-66

38. (Currently Amended) ~~A method according to claim 35, characterised in that~~ A method for connecting a first unit to an ad hoc network comprising at least two units having different roles, the units being adapted to communicate according to the Bluetooth specification, the ad hoc network comprising at least one piconet formed according to the Bluetooth specification, the roles of the units in the ad hoc network comprising master and slave, the method comprising the steps of:

the first unit establishing contact with at least one of the units of the ad hoc network and said at least one unit, in the establishment of contact, sending information to the first unit, the information including an indication of the role of said at least one unit in the ad hoc network;

the first unit thereafter, based on said information, connecting to said at least one unit, the first unit thereby becoming connected to the ad hoc network;

wherein the step of establishing contact, the first unit sends at least one INQUIRY message and said at least one unit responds by sending an INQUIRY RESPONSE message comprising a Frequency Hop Synchronisation (FHS) packet, the FHS packet including information of the status of said at least one unit in the at least one piconet, the FHS packet further ~~includes~~ including information as to at least one of the following:

whether the responding unit is connected to at least one of said at least one piconet, whether the responding unit is a slave in at least one of said at least one piconet, whether the responding unit prefers to be a master or a slave after a subsequent PAGE procedure, the number of slaves in at least one of said at least one piconet, the BD_ADDR(s) of at least one master unit of said at least one piconet where the responding unit is a slave member, the clock value(s) of at least one master unit of said at least one piconet where the responding unit is a slave member, inter-piconet scheduling parameters of at least one unit that is connected to at least two piconets, the battery status of the responding unit, traffic parameters in at least one of the piconets or priority parameters.

39. (Currently Amended) ~~A method according to claim 35, characterised in that~~ A method for connecting a first unit to an ad hoc network comprising at least two units having different roles, the units being adapted to communicate according to the Bluetooth specification, the ad hoc network comprising at least one piconet formed according to the Bluetooth specification, the roles of the units in the ad hoc network comprising master and slave, the method comprising the steps of:

the first unit establishing contact with at least one of the units of the ad hoc network and said at least one unit, in the establishment of contact, sending information to the first unit, the information including an indication of the role of said at least one unit in the ad hoc network;

the first unit thereafter, based on said information, connecting to said at least one unit, the first unit thereby becoming connected to the ad hoc network;

wherein the step of establishing contact, the first unit sends at least one INQUIRY message and said at least one unit responds by sending an INQUIRY RESPONSE message comprising a Frequency Hop Synchronisation (FHS) packet, the FHS packet including information of the status of said at least one unit in the at least one piconet;

wherein the information is encoded using at least one of two undefined bits in the FHS packet.

40. (Currently Amended) A method according to claim 39, ~~characterised in that~~ wherein one of said at least two undefined bits encodes whether the responding unit is a master of a piconet.

41. (Currently Amended) A method according to claim 39, ~~characterised in that~~ wherein one of said at least two undefined bits encodes whether the responding unit is a slave in at least one piconet.

42. (Currently Amended) ~~A method according to claim 35, characterised in that~~ A method for connecting a first unit to an ad hoc network comprising at least two units having different roles, the units being adapted to communicate according to the Bluetooth specification, the ad hoc network comprising at least one piconet formed according to the Bluetooth specification, the roles of the units in the ad hoc network comprising master and slave, the method comprising the steps of:

the first unit establishing contact with at least one of the units of the ad hoc network and said at least one unit, in the establishment of contact, sending information to the first unit, the information including an indication of the role of said at least one unit in the ad hoc network;

the first unit thereafter, based on said information, connecting to said at least one unit, the first unit thereby becoming connected to the ad hoc network;

wherein the step of establishing contact, the first unit sends at least one INQUIRY message and said at least one unit responds by sending an INQUIRY RESPONSE

message comprising a Frequency Hop Synchronization (FHS) packet, the FHS packet including information of the status of said at least one unit in the at least one piconet;

wherein the information is encoded using the class of device field in the FHS packet.

43. (Currently Amended) ~~A method according to claim 35, characterised in that~~ A method for connecting a first unit to an ad hoc network comprising at least two units having different roles, the units being adapted to communicate according to the Bluetooth specification, the ad hoc network comprising at least one piconet formed according to the Bluetooth specification, the roles of the units in the ad hoc network comprising master and slave, the method comprising the steps of:

the first unit establishing contact with at least one of the units of the ad hoc network and said at least one unit, in the establishment of contact, sending information to the first unit, the information including an indication of the role of said at least one unit in the ad hoc network;

the first unit thereafter, based on said information, connecting to said at least one unit, the first unit thereby becoming connected to the ad hoc network;

wherein the step of establishing contact, the first unit sends at least one INQUIRY message and said at least one unit responds by sending an INQUIRY RESPONSE message comprising a Frequency Hop Synchronization (FHS) packet, the FHS packet including information of the status of said at least one unit in the at least one piconet;

wherein the information is encoded using ~~the~~ an AM_ADDR field in the FHS packet.

44. (Currently Amended) A method according to claim 43, ~~characterised in that~~ wherein the AM_ADDR field is used to encode whether the responding unit, when subsequently paged, will want to connect to the paging unit as a slave or a master.

45. (Currently Amended) ~~A method according to claim 35, characterized in that~~ A method for connecting a first unit to an ad hoc network comprising at least two units having different roles, the units being adapted to communicate according to the Bluetooth specification, the ad hoc network comprising at least one piconet formed according to the Bluetooth specification, the roles of the units in the ad hoc network comprising master and slave, the method comprising the steps of:

the first unit establishing contact with at least one of the units of the ad hoc network and said at least one unit, in the establishment of contact, sending information to the first unit, the information including an indication of the role of said at least one unit in the ad hoc network;

the first unit thereafter, based on said information, connecting to said at least one unit, the first unit thereby becoming connected to the ad hoc network;

wherein the step of establishing contact, the first unit sends at least one INQUIRY message and said at least one unit responds by sending an INQUIRY RESPONSE message comprising a Frequency Hop Synchronization (FHS) packet, the FHS packet including information of the status of said at least one unit in the at least one piconet;

wherein the information is encoded using a combination of the undefined bits, ~~the~~ a class of device field, and ~~the~~ an AM_ADDR field in the FHS packet.

46. (Currently Amended) A method according to claim 45, ~~characterized in that~~ wherein the AM_ADDR is used to encode the number of active slave units in the piconet for which the responding unit is a master.

47. (Currently Amended) ~~A method according to claim 35~~ A method for connecting a first unit to an ad hoc network comprising at least two units having different roles, the units being adapted to communicate according to the Bluetooth specification, the ad hoc network comprising at least one piconet formed according to the Bluetooth specification, the roles of the units in the ad hoc network comprising master and slave,

the method comprising the steps of:

the first unit establishing contact with at least one of the units of the ad hoc network and said at least one unit, in the establishment of contact, sending information to the first unit, the information including an indication of the role of said at least one unit in the ad hoc network;

the first unit thereafter, based on said information, connecting to said at least one unit, the first unit thereby becoming connected to the ad hoc network;

wherein the step of establishing contact, the first unit sends at least one INQUIRY message and said at least one unit responds by sending an INQUIRY RESPONSE message comprising a Frequency Hop Synchronization (FHS) packet, the FHS packet including information of the status of said at least one unit in the at least one piconet;

wherein the responding unit is a slave in a piconet, ~~characterized in that~~ and

wherein the first unit sends a PAGE to the slave indicating the first unit intent to receive the at least one address (BD_ADDR) for the at least one master for the slave and the slave sending a PAGE RESPONSE message containing the requested at least one BD_ADDR.

48. (Currently Amended) A method according to claim 47, ~~characterized in that~~ wherein the PAGE RESPONSE includes at least one current clock value of said at least one master units of the responding unit.

49. (Currently Amended) A method according to claim 47, ~~characterized in that~~ wherein the PAGE RESPONSE further includes information as to at least one of the following: whether the responding unit is connected to at least one of said at least one piconet, whether the responding unit is a slave in at least one of said at least one piconet, whether the responding unit prefers to be a master or a slave after a subsequent PAGE procedure, the number of slaves in at least one of said at least one piconet, the BD_ADDR(s) of at least one master units of said at least one piconet where the

responding unit is a slave member, the clock value(s) of at least one master unit of said at least one piconet where the responding unit is a slave member, inter-piconet scheduling parameters of at least one Bluetooth that is connected to at least two piconets, the battery status of the responding unit, traffic parameters in at least one of the piconets or priority parameters.

50. (Currently Amended) ~~A method according to claim 35, characterized in that~~ A method for connecting a first unit to an ad hoc network comprising at least two units having different roles, the units being adapted to communicate according to the Bluetooth specification, the ad hoc network comprising at least one piconet formed according to the Bluetooth specification, the roles of the units in the ad hoc network comprising master and slave, the method comprising the steps of:

the first unit establishing contact with at least one of the units of the ad hoc network and said at least one unit, in the establishment of contact, sending information to the first unit, the information including an indication of the role of said at least one unit in the ad hoc network;

the first unit thereafter, based on said information, connecting to said at least one unit, the first unit thereby becoming connected to the ad hoc network;

wherein the step of establishing contact, the first unit sends at least one INQUIRY message and said at least one unit responds by sending an INQUIRY RESPONSE message comprising a Frequency Hop Synchronisation (FHS) packet, the FHS packet including information of the status of said at least one unit in the at least one piconet;

wherein the INQUIRY message contains a Dedicated Inquiry Access Code which is dedicated to, and will only be responded to, by one of the following:

a unit being a slave unit in one and only one piconet,

a unit being a slave unit in at least one piconet,

a unit being a slave unit in more than one piconet,

a unit being a slave unit in one or more piconets, but a master unit in none,

a unit being a slave unit in one or more piconets and a master unit in one piconet,

a unit being a master unit in one piconet, but a slave unit in none,

a unit that is not connected to any piconet,

a unit with low current traffic load, or

a unit with high current traffic load.

51. (Currently Amended) A method according to claim 50, ~~characterised in that~~ wherein the INQUIRY message contains a Dedicated Inquiry Access Code (DIAC) which is only responded to by master units.

52. (Currently Amended) A method ~~according to claim 33 in the case where the units are adapted to communicate with other according to the Bluetooth specification and the ad hoc network comprises at least one piconet formed according to the Bluetooth specification, the roles of the units in the ad hoc network comprising master and slave, characterised in that:~~ A method for connecting a first unit to an ad hoc network comprising at least two units having different roles, the units being adapted to communicate according to the Bluetooth specification, the ad hoc network comprising at least one piconet formed according to the Bluetooth specification, the roles of the units in the ad hoc network comprising master and slave, the method comprising the steps of:

the first unit establishing contact with at least one of the units of the ad hoc network and said at least one unit, in the establishment of contact, sending information to the first unit, the information including an indication of the role of said at least one unit in the ad hoc network;

the first unit thereafter, based on said information, connecting to said at least one unit, the first unit thereby becoming connected to the ad hoc network;

wherein in the establishment of contact, the first unit sends at least one INQUIRY message and said at least one unit responds by sending an INQUIRY RESPONSE message comprising a Frequency Hop Synchronisation packet, the INQUIRY message

containing a Dedicated Inquiry Access Code which is only responded to by units having the role of master.

53. (Currently Amended) A method according to claim 33 in the case where the units are adapted to communicate with other according to the Bluetooth specification and the ad hoc network comprises at least one piconet formed according to the Bluetooth specification, the roles of the units in the ad hoc network comprising master and slave, characterized in that A method for connecting a first unit to an ad hoc network comprising at least two units having different roles, the units being adapted to communicate according to the Bluetooth specification, the ad hoc network comprising at least one piconet formed according to the Bluetooth specification, the roles of the units in the ad hoc network comprising master and slave, the method comprising the steps of:

the first unit establishing contact with at least one of the units of the ad hoc network and said at least one unit, in the establishment of contact, sending information to the first unit, the information including an indication of the role of said at least one unit in the ad hoc network;

the first unit thereafter, based on said information, connecting to said at least one unit, the first unit thereby becoming connected to the ad hoc network;

wherein in the establishment of contact, the first unit sends at least one INQUIRY message and said at least one unit responds by sending an INQUIRY RESPONSE message comprising a Frequency Hop Synchronisation packet, the INQUIRY message containing a Dedicated Inquiry Access Code (DIAC) which is dedicated to, and is only be responded to, by one of the following:

a unit being a slave unit in one and only one piconet,

a unit being a slave unit in at least one piconet,

a unit being a slave unit in more than one piconet,

a unit being a slave unit in one or more piconets, but a master unit in none,

a unit being a slave unit in one or more piconets and a master unit in one piconet,

a unit being a master unit in one piconet, but a slave unit in none,

a unit that is not connected to any piconet,

a unit with low current traffic load, or

a unit with high current traffic load.

54. (Currently Amended) A method according to claim 53, ~~characterised in that~~ wherein the INQUIRY message contains a Dedicated Inquiry Access Code (DIAC) which is only responded to by master units.

55. (Cancelled)

56. (Cancelled)

57. (Currently Amended) ~~A mased according to claim 56 in the case where~~ A method for connecting a first unit to an ad hoc network comprising at least two units, the at least two units having different roles, the units ~~are~~ being adapted to communicate with other according to the Bluetooth specification, ~~and~~ the ad hoc network ~~comprises~~ comprising at least one piconet formed according to the Bluetooth specification, the roles of the units in the ad hoc network comprising master and slave and said at least one unit having the role of master, ~~characterised in that~~ the method comprising the steps of:

the first unit establishing contact with at least one of the units of the ad hoc network;

the first unit thereafter connecting to said at least one unit, the first unit thereby becoming connected to the ad hoc network;

wherein in the step of connecting, the first unit chooses or determines the roles of itself and of said at least one unit in the ad hoc network formed after the first unit becoming connected;

wherein in the step of connecting, a PAGE message is sent from the first unit to

said at least one unit, thereafter a PAGE RESPONSE message is sent from said at least one unit to the first unit, and finally a Frequency Hop Synchronization (FHS) packet is sent from the first unit to said at least one unit, the FHS packet including an indication that the first unit has determined to reverse the paging direction from said at least one unit to the first unit.

58. (Currently Amended) A method according to claim 57, ~~characterised in that~~ wherein the reversal is performed by terminating the current PAGE procedure and initiating a new PAGE procedure from the master to the first unit.

59. (Currently Amended) A method according to claim 57, ~~characterised in that~~ wherein the reversal is performed by the master Bluetooth which receives the request for reversal sending an FHS packet to the first unit with all FHS parameters set as if the sender is the paging unit and the first unit responding with a packet including only the first unit DAC, thereby concluding the reversed page procedure.

60. (Currently Amended) A method according to claim 57 wherein the paged unit does not accept the reversal of paging direction, ~~characterised in that~~ and wherein the paged unit responding to the FHS packet with a second FHS packet including the same indication of request for reversal of paging direction and the first unit receiving this second FHS packet choosing to either proceed with the PAGE procedure without reversing or abandoning the PAGE procedure.

61. (Currently Amended) A method according to claim 60, ~~characterised in that~~ wherein if the first unit chooses to proceed with the PAGE procedure it proceeds by restarting the PAGE procedure by sending a new initial PAGE message.

62. (Currently Amended) A method according to claim 60, ~~characterised in that~~

wherein if the first unit chooses to proceed with the PAGE procedure it proceeds by sending a third FHS message without an indication of request for reversal of paging direction.

63. (Currently Amended) A computer program product directly loadable into the internal memory of a digital computer, comprising software code portions for performing the steps of the methods of or the methods performed by any block or device according to claims 37-38 when the product is run on a computer.

64. (Currently Amended) A computer program product stored on a computer usable medium, comprising readable program means for causing a computer to control the execution of the steps of the methods performed by any block or device according to claim 37 38.

65. (Currently Amended) A computer program product directly loadable into the internal memory of a digital computer, comprising software code portions for performing the steps of the methods of or the methods performed by any block or device according to claim 56-57 when the product is run on a computer.

66. (Currently Amended) A computer program product stored on a computer usable medium, comprising readable program means for causing a computer to control the execution of the steps of the methods performed by any block or device according to claim 56 57.